DOCUMENT RESUME

ED 193 185 SP 016 754

AUTHOR Arnold, Justine; Grogan, Jane, Ed.
TITLE Thoughts on Food and the Future. New Horizons in Nutrition.
INSTITUTION Luzerne Intermediate Unit 18, Kingston, Pa.
SPONS AGENCY Pennsylvania State Dept. of Education, Harrisburg. Bureau of Curriculum Services.
PUB DATE 80
NOTE 16p.; For related documents, see SP 016 752-761.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Advertising; *Consumer Protection; Freedom of Speech; *Global Approach; *Government Role; Hunger; *Nutrition Instruction; Public Agencies; Secondary Education; Self Care Skills; Social Problems; Social Values

ABSTRACT

This instructional handbook is one of a series of ten packets designed to form a comprehensive course in nutrition for secondary students. This unit provides a brief overview of the world food crisis, the proposed U.S. Dietary goals, and the conflict between freedom of speech and the proliferation of nutrition misinformation. It contains a page of teaching suggestions, a pre-test for the students, and factual nutrition information with examples of how this information can be used in daily living. A post-test and bibliography are included. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED193185

NEW HORIZONS IN NUTRITION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Days

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

STARVATION
Energy
HUNGER
How Fares the World?
For the love of a hungry child.
MALNUTRITION
FEAST or FAMINE
Energy-Food Production
Reaching for Fuel-Saving Ideas
CAN WE FEED THE WORLD?
MALNUTRITION
OBESITY
Food for ALL
WORLD FOOD
Avoiding a Crisis
THOUGHTS ON FOOD AND THE FUTURE

SP 016 754

NEW HORIZONS IN NUTRITION

AN ISSUE ORIENTED APPROACH

BY

Joy Armillay, M.S., R.D., Researcher

Justine Arnold, M.S., R.D., Author

Mary Ann Ashton, M.S., R.D., Field Testing Coordinator

Jane Grogan, M.S., Editor and Project Coordinator

Michael Weida, Illustrator

DEVELOPED THROUGH A NUTRITION EDUCATION AND TRAINING GRANT FROM THE PENNSYLVANIA DEPARTMENT OF EDUCATION TO

LUZERNE INTERMEDIATE UNIT 18
368 Tioga Avenue
Kingston, Pennsylvania 18704

Summer, 1984

ACKNOWLEDGMENTS

The project staff wishes to express their sincere appreciation to the following teachers who assisted with the field testing of these instructional packets.

GREATER NANTICOKE AREA SCHOOL DISTRICT
LOUISE HUDAK
JOHN KASHATUS
THEODORE WIATEROWSKI

HANOVER AREA SCHOOL DISTRICT
MARIE DRUFFNER
ROSEMARY KOCHER
MARY ANN MACIUN
MARY SUE MITKE

HAZLETON AREA SCHOOL DISTRICT
ELIZABETH ABERNATHY
ANNE CONNOR
ROBERT R. WILLIAMS

LAKE LEHMAN SCHOOL DISTRICT
LYNN EVANS
JERI JONES
EMMA MATZ

WILKES-BARRE AREA SCHOOL DISTRICT
FIORA SHRADER

WYOMING VALLEY WEST SCHOOL DISTRICT
ESTELLE FREEDMAN
MIRIAM HANNON
MARGE KELLY
REGINA TIRPAK
DOLORES WEISS

PROGRAM INTRODUCTION

These ten instructional packets are designed to help you make the science of nutrition a fascinating, relevant topic of study for your students. The study of nutrition is the most basic of all skills as eating is something done by every student every day of his or her life. With the intrinsic relationship between proper nutrition and good health, it is vitally important that we help students to make intelligent decisions with regard to what they eat.

The ten packets which make up New Horizons in Nutrition can be taken together to form a comprehensive course in nutrition for secondary students. If you prefer, individual packets can be used when they're relevant to specific topics in health, home economics, science, or social studies classes. In addition, you can use the materials with entire classes or individual students can be given the packets for self-directed study.

Each packet contains a page of teaching suggestions which can easily be detached before the rest of the booklet is given to the students. The materials for the students include a pre-test, a selection which provides the students with factual information and examples of how this information can be utilized in everyday life, and a post test. Reading the selections and completing the evaluation devices is not enough to insure mastery of the concepts. We urge you to reinforce the packets by following through with related classroom activities. You'll find suggestions in the "Notes to the Teacher" or use them as a springboard to develop activities more ideally suited to the needs of your students. Finally, brief bibliographies are provided with each packet which lists related readings and audiovisual materials.

These suggested materials are not meant to be used as a research bibliography. Rather, they are sources of additional information which are likely to be of interest to secondary students.

The topics of the ten packets are:

1. *Advertising*
2. *Back to Basics*
3. *The Emotional Aspects of Nutrition*
4. *Food Faddism*
5. *Low Carbohydrate Diets*
6. *Nutrition and the Athlete*
7. *Nutrition: Yesterday, Today, and Tommorrow*
8. *Social Issues in Nutrition*
9. *Vegetarianism*
10. *Vitamin C and the Common Cold*

We sincerely hope these packets help you to make nutrition education an alive, relevant, and exciting topic of study for you and your students. The benefits for everyone are well worth your effort.

The Authors

TEACHING NOTES

INTRODUCTION

In talking about nutrition, we usually concentrate on the personal level in terms of "What should I eat?" We often overlook the broader issues relative to our food supply. This packet provides a brief overview of the world food crisis, the proposed U.S. Dietary Goals, and the conflict between freedom of speech and the proliferation of nutrition misinformation.

OBJECTIVES

1. Students will examine factors which should be considered in evaluating media information dealing with nutrition.
2. Students will identify factors which may ease the world food crisis.

ACTIVITIES

1. Divide students into two groups and allow them time to research and then debate the following: Resolved: The federal government should exercise strict control over any publications dealing with nutrition in order to protect the average American consumer.
2. Have each student bring into class an article dealing with nutrition from a popular magazine. Critique the articles according to the criteria outlined in the packet.
3. Have students prepare illustrated posters which show how the affluent American lifestyle is one of the contributing factors in the world food crisis. Display the posters in the cafeteria.
4. Allow a few students to research the pro and con arguments regarding the U.S. Dietary Goals. Some students can role-play representatives of the American food industry and argue against adopting the goals while others can assume the roles of proponents of the goals. After the class hears both sides, survey the members to identify their opinions.

PRE TEST KEY

1. F	6. T
2. F	7. F
3 T	8. F
4 F	9. T
5. T	10. F

POST TEST KEY

Answers may vary. Refer to the packet.

BIBLIOGRAPHY

Center for Humanities. CRITICAL ISSUES IN SCIENCE AND SOCIETY: A WORLD TO FEED. (Multimedia program)

Gussow, J. THE FEEDING WEB: ISSUES IN NUTRITIONAL ECOLOGY. Palo Alto, Calif., Bull Pub., 1978.

Lappe, F. FOOD FIRST: BEYOND THE MYTH OF SCARCITY. Boston, Houghton Mifflin, 1977.

Marei, S. THE WORLD FOOD CRISIS. London, Longman, 1976.

Perl, L. THE GLOBAL FOOD SHORTAGE. N.Y., Morrow, 1976.

PRE TEST

1. _____ The U.S. Dietary Goals were enacted into law in 1979.

2. _____ It is recommended that our salt intake be increased due to frequent sodium deficiencies in our population.

3. _____ The most prevalent form of malnutrition in the world today is protein - calorie malnutrition.

4. _____ The Green Revolution has been extremely successful up to the present time.

5. _____ A reliable source of nutrition information is the Agricultural Extension Services.

6. _____ The energy crisis has been a contributing factor to the world food crisis.

7. _____ It is highly likely that a solution will be found to the world food crisis in the next ten years.

8. _____ The federal government carefully regulates publishing companies so that only reliable information is printed in books on nutrition for use by the general public.

9. _____ Soybeans are a good potential source of high quality protein for malnurished persons in the Third World.

10. _____ The U.S. Dietary Goals strongly recommend that Americans reduce their consumption of alcohol.

SOCIAL ISSUES IN NUTRITION

FOOD QUACKERY VS. FREE SPEECH

Information on food and nutrition is found everywhere. Books devoted to diet can be seen in every bookstore. Newspaper and magazine articles dealing with nutrition are found everyday. Radio and TV are other sources of a constant supply of nutrition information. Not all of this information is in agreement, and not all of it is accurate. It is up to the reader, listener, or viewer to distinguish fact from fiction.

This is not easy. All of the scientific facts pertaining to nutrition have not been discovered. This leaves the way open to food misinformation and many fallacies. We have to learn to make judgments for ourselves, and every one believes on the basis of what makes sense to them. A person is most likely to believe what he or she has experienced. Unfortunately nutritional effects are not immediate and automatic. The effects of a fad diet, food fallacy, and myth do not show instantaneously. The changes come gradually and may take months or years to develop.

There is one general point of agreement among all nutrition experts. And that is that everyone, regardless of age or sex, should eat, in moderation, a wide variety of foods daily. The best way to assure this variety is to follow the Basic Four Food Groups. When nutrition information suggests something much different from the base of agreement, weigh the information carefully.

There is not foolproof test or checklist that will distinguish fact from fiction. But some guidelines may help us judge the validity of the information. Here are some guidelines which may be useful:

Who says it? Does the person have special expertise on food and nutrition? Degrees are one indication of special study and preparation, and where that training was obtained is another factor.

Does an institution or agency put its reputation behind the information it offers? Many institutions develop and provide information as a public service. Some of the respected sources include: colleges and universities; professional societies - the American Dietetic Association, Society for Nutrition Education, Institute of Food Technologists, Department of Food and Nutrition of the American Medical Association, and the American Dental Association; medical schools; county and state public health departments; the National Institute of Health; and the County Extension Services.

Where it it said? The manner of the communication affects the nature of the content. Was the information presented at meetings of professional societies, or did it appear as an article in a professional journal? Did it appear in the mass media, which has no limits beyond individual ethics or legal responsibility? Be wary of information presented on radio or TV "talk" shows unless you know the guest's credentials.

How is it said? Be on the lookout for word changes that occur between the statement of the expert and what appears in print. For example, the scientist may report a "theory" and the press reports it as a "discovery." Also be careful of qualifying words, such as "may," "perhaps," and "assuming."

What is said? If a statement is a big surprise, think carefully before accepting it. Be skeptical when statements seek to build distrust of the established scientific community; offer a weird or unusual diet plan; or claim special health-giving properties for a certain food or nutrient. Be cautious of giving credibility to information that does not support the consensus of agreement among nutrition experts.

PROPOSED U. S. DIETARY GOALS

Many times we hear on the radio references to "national defense policy" or "economic policies of the United States". Given that all Americans must eat each day to be healthy, it may come as a surprise to learn that the United States has no comprehensive nutrition policy. In an effort to develop such a policy, the U.S. Senate Select Committee on Nutrition and Human Needs proposed the following Dietary Goals in 1977:

1. Increase carbohydrate consumption to account for 55 to 60% of caloric content.
2. Reduce overall fat consumption from 40 to 35% of energy intake.
3. Reduce saturated fat consumption to account for about 10% of total energy intake; and balance that with polyunsaturated and monosaturated fats which should each account for about 10% of energy intake.
4. Reduce cholesterol consumption to about 300 *mg* a day.
5. Reduce sugar consumption by about 40% to account for 15% of total energy intake.
6. Reduce salt consumption by about 50 to 85% to approximately 3 *g* a day.

It is important to remember that these goals are only proposals; they have never been legislated into law. If they were enacted, these Goals could result in drastic changes in our eating habits; and thus they

have generated a great deal of controversy. There are individuals and professional groups who feel strongly on both sides of the issue; and as of yet, they have not reached a consensus.

On a more specific level, the emphasis in diet advice today is on moderation because many diseases in our society are nutrition related. The American Heart Association and the Department of Agriculture are urging healthy people to consume less fat and to watch the types of fat they are eating. Here are some of their suggestions:

1. Use 6 oz. of meat per day with an emphasis on lean meat, fish, and poultry.
2. Use skim milk and skim milk products. Avoid whole milk, ice cream, cream, butter, and hard cheses.
3. Increase the intake of fruits and vegetables.
4. Watch the amount of sugar and fats in breads, cereals, and cereal and flour products.
5. Restrict eggs to three times per week.
6. Use an unsaturated oil for cooking and baking.

They also had suggestions to offer to the food industry. It was felt food manufacturers and processors should:

1. Make leaner meats available.
2. Process meats, dairy products, frozen desserts, and baked goods so there is a reduction in saturated fat content, cholesterol, and kilocalories.
3. Produce margarine, shortening, mayonnaise, salad dressing, and oil with a low saturated fat and cholesterol content.

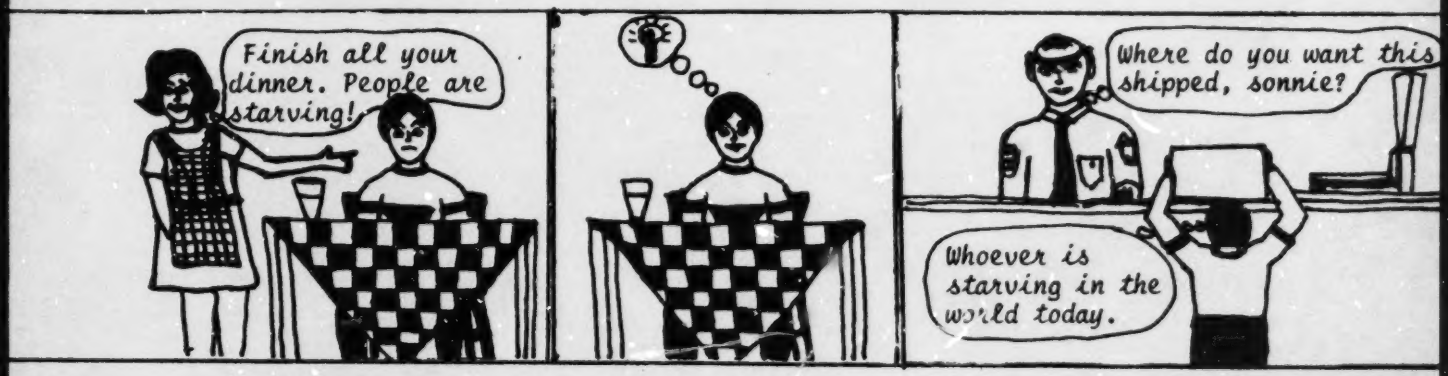
The use of salt has also been discussed. One suggestion made was that the salt shaker should be thrown out. Many foods contain sodium, so the use of salt in cooking and serving should be avoided. Excess salt is another contributing factor to nutrition related disease.

In an effort to cut down on the consumption of sugar, the Department of Agriculture is recommending changes for the School Lunch Program. After July 1, 1980, all schools participating in the program will have to ban, until the last lunch period is over, all sales of soda, chewing gum, and candy of minimal nutritional value. The USDA defines minimal nutritional value as providing less than 5% of the U.S. Recommended Dietary Allowance of eight basic nutrients. This ban is intended to prevent such products from competing with school lunch offerings.

The Department of Agriculture feels that the School Lunch Program "should serve as a model for good nutrition." In line with these intentions, the Department is now buying ground meat with a low percentage of fat. The canned fruit must be packed in light instead of heavy syrup, and the canned beef and poultry it buys may have a salt content of no more than 1%.

It is generally hoped that these goals will improve the health of all individuals within the United States. By supplying sound nutrition principles to the young people, we greatly improve the outlook for future generations.

WORLD FOOD CRISIS



The rapid increase in the world's population without a comparable increase in wealth and in the production of food has presented many problems. At least 20% of the people in less developed countries receive far too few calories, and 60% receive diets of poor quality. Much emphasis has been placed on the need for adequate quality and quantity of protein in the Third World Countries. This nutrient is emphasized because so much protein malnutrition exists. However the situation of protein deficiency cannot be clearly separated from a deficiency of kilocalories. A more accurate description of the problem is protein-calorie malnutrition or PCM.

PCM is the world's most serious nutritional problem. It affects approximately 70% of the infants and preschool children in the developing countries of Africa, the Middle East, southeastern Asia, and Central and South America. Millions die annually and millions more will go through life stunted in their physical growth and unable to achieve the full potential of their mental development.

Only recently have we begun to realize that protein in only one part of the problem. The efforts of the last twenty years, which focused only on improving the quality and quantity of protein in the diet,

did not reflect a broad enough approach to the problems. In 1973, the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) stated: "When intake of both energy and protein are grossly inadequate, the provision of protein-rich food of animal origin may be costly and inefficient way of improving diets, since energy can generally be provided more cheaply than protein of good quality."

Food sources of good quality protein are scarce in many parts of the world. This is usually as a result of inadequate total food production. Some countries produce protein foods, but the quality is not good, and general information on food is lacking.

The most practical approach to remedy PCM is to improve the food supply of the entire family, because this is the best way to ensure that the preschool child will receive his needed share. Food mixtures that contain amino acids to meet the growth needs of the child have been developed in a number of countries. However, a solution for one country may not be feasible for another. Different climates, geography, economic resources, social patterns, and eating habits can alter the situation.

In recent years, agricultural scientists have brought about the "Green Revolution." In many less developed countries, high yields of cereals are being achieved by improving the strains of rice, wheat, and corn. Modern agricultural practices including the use of fertilizers and irrigation equipment are also a part of the Green Revolution. These measures buy time, but eventually food production will not be able to keep up with the present rapid growth of the population.

Some of the programs that have been undertaken to produce new sources of protein are:

1. **Improvement of cereal grain.** An example of this is opaque - 2 corn, a hybird variety that has increased amounts of lysine and tryptophan (two of the essential amino acids). This grain contains 50% more protein than the regular variety. This was a significant development for Central America, Latin America, and some of the African nations.

2. **Textured vegetable protein.** (TVP is a term also associated with meat extenders) - Protein is extracted from grains or legumes, and it is formed into fibers. The fibers are further processed to simulate beef, pork, ham, chicken, or fish. Minerals and vitamins may be added to correspond to the composition of the product it replaces.

3. **Lysine** (an essential amino acid) has been added to flour to make it a better source of protein.

4. **Soybeans** contain protein of superior quality. Many products made from soybeans are now appearing. More use should be made of soybeans in the future.

5. **Triticale** is a man-made grain combining the properties of wheat and rye. It contains a higher quality of protein than other grains, and it is more resistent to drought and cold that wheat.

6. **Incaparina** was the first food mixture to be developed that uses the supplement value of plant proteins. This mixture contains protein equal to milk.

These programs have improved the plant sources of protein. This is the most efficient and least costly way of fighting PCM. But the problem of consumption now arises. Unless people eat the food, nutritional improvement is impossible. Education is necessary to acquaint the people of the Third World with new foods and new ideas. Nutritional improvement of people or population groups only takes place when and if a better diet is actually consumed.

RELATIONSHIP OF THE ENERGY CRISIS TO FOOD PRODUCTION

The energy crisis is having an effect on food production. The Green Revolution has been brought to a standstill because of the cost of fuel. Materials and technical assistance are currently influenced by the oil shortage. The cost of fertilizers, which are by-products of oil, has soared in recent years beyong the means of many farmers in the developing countries.

Fuel is also necessary for operating the machinery that has improved agricultural practices. Fuel is required for the power irrigation systems, which aid in improving the crop yield. Transporting seeds and other goods to farmers and distributing food from the farmer to the market to the consumer also requires energy.

The following two recommendations have been made relative to the agricultural assistance programs for the Third World Countries:

1. Aid should be offered as fuel, rather than as food.

2. Emphasis should be given to small scale labor-intensive agriculture.

This approach can help the economics of the underdeveloped countries. It reduces the dependence upon equipment that requires fuel, which is in short supply. At the same time, it puts more people back to work, and thus employment is increased.

SUMMARY

Learn to read with a critical eye. Evaluate all information that is presented to you; and if you are in doubt, seek help from a reliable source. Your health and your future depend upon this.

QUESTIONS FOR THOUGHT

Select an underdeveloped country from the Third World and visit the library to obtain a few books on that country. Then consider the following questions.

1. What is the current poverty rate? What is the estimated incidence of malnutrition?

2. What would be the average daily food intake for a typical person in that country?

3. What are the major causes of the poverty and malnutrition?

4. Have any attempts been made to alleviate the poverty and malnutrition? If so, describe the efforts and what successes were achieved?

5. If you were asked to design a program to help alleviate the poverty and malnutrition, what would be the major components of your proposal?

POST TEST

Name three alternative food sources which offer some promise to alleviate world hunger.

1.

2.

3.

What are four questions to ask yourself when you try to evaluate the reliability of something you might read or hear which deals with nutrition?

4.

5.

6.

7.

Name three of the six U.S. Dietary Goals.

8.

9.

10.